CLAIMS

1. A medicament comprising at least one agonist of receptors selected from the group consisting of the CCR3, CCR6 or CCR8 receptor or combinations thereof and a pharmaceutically acceptable carrier.

2. The medicament according to claim 1 wherein the agonists is selected from the group consisting

of receptor CCR3: Eotaxin; Eotaxin-2; Eotaxin-3 ; Hemofiltrate CC-Chemokine-1 (HCC-1); Hemofiltrate CC Chemokine-2 (HCC-2); Macrophage Inflammatory Protein - 1α (MIP-1α); Regulated on Activation Normally T-Cell Express and Secreted (RANTES); Monocyte Chemoattractant Protein - 2 (MCP-2); Monocyte Chemoattractant Protein - 3 (MCP-3); Monocyte Chemoattractant Protein - 4 (MCP-4); 2-[(6-amino-2-benzothiazolyl)thio]-N-[1-[(3,4-dichlorylphenyl)methyl]-4-piperidinyl] acetamide;

of receptor CCR6: Macrophage Inflammatory Protein - 3α (MIP-3α);

of receptor CCR8: I309; Macrophage Inflammatory Protein - 1β (MIP-1β); LAG-1; Thymus and Activation Regulated Chemokine (TARC); viral Macrophage Inflammatory Protein - I (vMIP-I); as well as derivatives therof keeping their agonist abilities.

3. Use of an agent for the manufacturing of a medicament for improving the homing of stem cells wherein the agent is at least one agonist of receptors selected from the group consisting of the CCR3, CCR6 or CCR8 receptor or combinations thereof.

4. The use according to the foregoing claim wherein the agonist is used for treatment of progenitor and stem cells prior to transplantation.

5. The use according to one or more of the foregoing claims for the transplantation of hematopoietic progenitor and stem cells, umbilical cord blood and placental stem and progenitor cells, liver stem and progenitor cells (oval cells), mesenchymal stem and progenitor cells, endothelial progenitor cells, skeletal muscle stem and progenitor cells (satellite cells), smooth muscle stem and progenitor cells, intestinal stem and progenitor cells, embryonic stem cells, and genetically modified

embryonic stem cells, adult islet/beta stem- and progenitor cell, epidermal progenitor and stem cells, keratinocyte stem cells of cornea, skin and hair follicles, olfactory (bulb) stem and progenitor cells and side population cells from diverse adult tissues.

6. The use according one or more of the foregoing claims to increase the sensitivity of hematopoietic stem cells to SDF-1 induced cellular signals.

7. The use according one or more of the foregoing claims for the treatment of leukemias, lymphoproliferative disorders, aplastic anemia, congenital disorders of the bone marrow, solid tumors, autoimmune disorders, inflammatory diseases, primary immunodeficiencies, primary systemic amyloidosis, systemic sclerosis, heart diseases, liver diseases, neurodegenerative diseases, multiple sclerosis, M. Parkinson, stroke, spinal cord injury diabetes mellitus, bone diseases, skin diseases, replacement therapy of the skin, retina or cornea, other congenital disorders, vessel diseases like atherosclerosis or cardiovascular disease.

8. A method of improving the successful homing of hematopoietic stem cells by contacting the hematopoietic stem cells in vivo or ex vivo with an agent which is at least one agonist of receptors selected from the group consisting of the CCR3, CCR6 or CCR8 receptor or combinations thereof.

9. A method of improving the successful homing of hematopoietic stem cells in a host patient by applying at least one agent which is an agonist of receptors selected from the group consisting of the CCR3, CCR6 or CCR8 receptor or combinations thereof into the patient who is receiving stem cell transplantation prior to and/or in the course of stem cell transplantation.

10. The method of the foregoing claim wherein the host patient are not conditioned.

11. The method of claim 9 wherein the host patient is conditioned under sublethal, lethal, or supralethal conditions.

12. The method according to any one of the claims 10 or 11 wherein sublethal, lethal, or supralethal conditions include treatment with total

body irradiation, optionally followed by treatment with myeloablative or immunosuppressive agents.

13. The method according to any one of the claims 10 to 12 wherein sublethal, lethal, or supralethal conditions include myeloablative or immunosuppressive treatment without total body irradiation.